

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Ryoji NOMURA et al.)
Serial No.: 10/575,120)
Filed: April 7, 2006)
For: Light Emitting Element And Electronic)
Device Using The Same)
Examiner: Brett Alan Crouse)
Art Unit: 1786)
Confirmation No.: 9220)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE (D) AFTER FINAL

Applicants have the following response to the Final Rejection of March 15, 2011.

Claim Rejections – 35 U.S.C. §103

In the In the Final Rejection, the Examiner has the following rejections under 35 U.S.C.

§103:

- A. Claims 1, 2, 6, 7, 8, 9 10, 14 as being unpatentable over Heeney et al. (EP 1,439,590) in view of Tokito et al. (Journal of Physics: Applied Physics (1996), vol. 29, pages 2750-2753) and Kinlen (US 2004/0018382 – a new reference) with further evidence provided by Liu et al. (Applied Physics Letters, (2007), vol. 91, 142106 – a new reference)
- B. Claims 1-6, 9-16 are rejected as being unpatentable over Takasu et al. (U.S. 2004/0258954) in view of Heeney and Tokito and Hosokawa (US 2002/0045061) ad Kinlen with further evidence provided by Liu and Angelopoulos et al. (U.S.

5,198,153).

- C. Claims 1, 2, 6, 7, 8, 9, 10, 14 are rejected as being unpatentable over Heeney in view of Ikeda et al. (WO 2005/031798) and Kinlen with further evidence provided by Liu.
- D. Claims 1-6, 9-16 are rejected as being unpatentable over Takasu in view of Heeney and Ikeda and Hosokawa and Kinlen with further evidence provided by Liu and Angelopoulos.

Each of these rejections is respectfully traversed.

Initially, Applicants note that in the prior amendment, independent Claims 1-5 were amended to recite the feature of “a first layer (e.g. 324) in contact with the second electrode (e.g. 302) and a second layer (e.g. 327 or 330) in contact with the first electrode (e.g. 301)” (see e.g. Figs. 3A or 3C in the present application; emphasis added). Hence, in the claimed feature, the first layer and the second layer are in contact with the second electrode and the first electrode, respectively. As explained below, this feature is not disclosed in the cited references, and the rejection(s) fail to show where this feature is allegedly shown in the references

In particular, the Examiner seems to cite newly cited Kinlen (US 2004/0018382) to compensate for the fact that the other cited references do not disclose this claimed feature. However, the Examiner’s contentions are as follows (emphasis added)

Heeney/Tokito does not teach:

Heeney/Tokito does not provide an experimental example of a device comprising the
mers of Heeney in a first and second layer in which the first layer contacts the cathode
and the second layer contacts the anode. However, Heeney teaches a light emitting device
structure in paragraph [0102] having hole and electron transport layers and further
teaches that the mers can be used in the charge transport or light emitting layers of the
device.

Kinlen teaches:

Kinlen is added to teach a second electrode multi-layer structure comprising a conductive
polymer on the side internal to the device and a metal contact layer on the side external to
the device.

Paragraph [0092], example 3, figure 8, teaches an electroluminescent device structure.

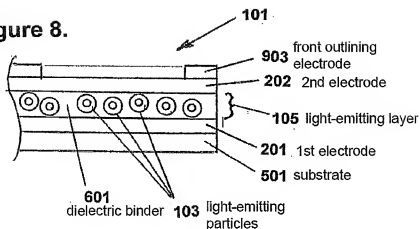
Paragraphs [0100]-[0104], teach in order a first electrode layer and second electrode
layer: The first electrode layer can be a conductive polymer. Recited conductive polymers
include polypyrrole and poly(3,4-ethylenedioxythiophene). The second electrode layer is
formed on the external face of the first electrode layer.

Liu as further evidence:

Liu is added to provide the charge mobility of holes and electron in alpha-NPD (NPB).
Figure 1 of Liu, 142106-2, teaches the charge mobility of holes and electrons in NPB at
various electric field strengths.

However, FIG. 8 of Kinlen shows the following:

Figure 8.



The Examiner contends that Kinlen teaches that the first electrode (201) and the second electrode (202) are poly(3,4-ethylenedioxythiophene) (PEDOT) (see emphasis above and paragraph [0058] in Kinlen).

However, this contention appears to have nothing to do with the claimed feature of the first layer and the second layer being in contact with the second electrode and the first electrode, respectively, since only a light-emitting layer (105) is provided between the first electrode (201) and the second electrode (202), and further poly(3,4-ethylenedioxythiophene) (PEDOT) is used as an electrode, rather than the first layer or the second layer.

Therefore, it appears that the cited references do not disclose or suggest this claimed feature, and there has been no showing in the rejections as to where this claimed feature is allegedly shown in the cited references (and hence, a prima facie case of obviousness has not been established).

Therefore, independent Claims 1 and 2 (and 3-5) are not disclosed or suggested by the cited references, and Claims 1, 2 (and 3-5) and those claims dependent thereon are patentable over the cited references. Accordingly, it is respectfully requested that these rejections be withdrawn.